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# BACKGROUND INFORMATION

## Partner country

Republic of Serbia

## Contracting authority

Public Enterprise “VOJVODINAŠUME”

Preradovićeva 2, 21131 Petrovaradin, Republic of Serbia

## Country background

The rivers form the longest uninterrupted river corridor in Central Europe with the largest contiguous floodplain forests habitat system in the Danube Basin, often referred to as the “Amazon of Europe”. The area hosts Danube´s most intact floodplain areas (Kopački Rit) on the first 2,000 km (source to Iron Gate), which correspond to 50% of the most natural floodplain areas along the entire Danube course. Additionally, the Croatian-Serbian Danube contributes with 50% to the most natural hydro-morphological intact river sections along its first 2000 km (ICPDR 2014/19). This makes the area to a haven for floodplain flagship species such as the white-tailed eagle Haliaeetus albicilla with continental Europe’s highest breeding density (more than 150 pairs). The floodplain waters of Kopački Rit are Danube´s most important fish spawning area. With over 5,000 animal species including 70 fish species and more than 1,500 plant species the riverine areas are one of Europe´s biodiversity hotspots (Stumberger et al. 2022).

These unique natural values are protected by 17 Natura 2000 sites and further protected areas which string along the rivers. They represent the ecological backbone (core and buffer zone) of world´s first 5-country Biosphere Reserve, which was designed in 2021 by UNESCO´s Man and the Biosphere (MAB) programme, after decades of continuous work and cooperation of the five countries (Annex A7\_001; Köck et. al 2022). The 5-country Biosphere Reserve Mura-Drava-Danube (TBR MDD), with an overall size of 932,000 ha including the 630,000 ha transition zone forms the largest protected river system in Europa.

The project area with a total size of 2071,6 km2 is connecting 17 Natura 2000 Sites (Annex 5) and one major Special Nature Reserve in Serbia (future Natura 2000 site) in two European biogeographical regions – the Continental and the Pannonian regions. The habitat types HT 91E0\* and HT 91F0 account for a total of 49,4% (435 km2) (HT 91E0\*=40%, HT 91F0=9,4%) of the forest structure in the project area (nat. inventories, Schwarz 2013, Annex 4 – Maps). The Natura 2000 sites and protected area with its contiguous large-scale floodplain forest habitat structure are flagship sites for preserving of both habitat types HT 91E0\* and HT 91F0. They represent a natural asset of European importance. The target area in Serbia covers: Special Nature Reserve Gornje Podravlje (future N2K site) - 9,3 %.

Habitat type HT 91E0\* as well as HT 91F0 is in an unfavourable-bad conservation status at EU level in the Continental and Pannonian biogeographical regions with declining trend (U2-). Same status applies on country level for Austria, Hungary, Slovenia, except Croatia, where HT 91F0 is in unfavourable-inadequate with future prospect unfavourable-bad. HT 91E0\* is listed in Croatia in favourable status (Article 17 reporting period 2012-2018) but is threatened and needs conservation actions (Natura 2000 – SDF report; https://www.bioportal.hr/gis/). In Serbia both habitat types are threatened and conservation actions are urgently needed (Puzović S. et al. 2015). The main threats on these habitats include changes in the state of water bodies, silvicultural activities (e.g. plantations) and invasive species. Therefore, the rivers are struggling with continued habitat degradation and degradation of floodplain forests and endangered species loss, with consequences becoming increasingly evident and threatening the functionality of the ecosystem (Klösch et al. 2022). To counteract these threats and negative trend in a coordinated international effort is the rationale of the project consortium.

Vojvodinašume Public Forest Enterprise, as the forestry agency of the province of Vojvodina, is the managing authority of all protected areas in this province, including Special Nature Reserve Gornje Podravlje. As a protected area manager, Vojvodinašume has the intention to improve the status of the forest's habitats by improving the hydrological regime. This would have a broader impact on all relevant sectors (especially on nature conservation and forestry). As a protected area manager Vojvodinašume has a clear task to improve the status of the protected area (Gornje Podunavlje SNR). This project will bring great contributions in all aspects, especially ecological ones. Vojvodinašume will have leading role in coordinating and implementation of the project activities.

## Current situation in the sector

The project "LIFE RESTORE for MDD - Preserving and restoring floodplain forest habitats along the Mura-Drava-Danube rivers" focuses on the conservation and restoration of the largest contiguous floodplain forest habitat system in the Danube River Basin for improving its conservation status. During the project period of 5 years, the causes of the degradation of the floodplain forests and the lack of connectivity between the individual habitats along the three transboundary river courses will be tackled in a coordinated and integrated conservation effort by 17 partners of the five involved countries Austria, Croatia, Hungary, Slovenia and Serbia. The focus of the planned measures is on the priority habitat HT 91E0\* Alluvial forests and HT 91F0 Riparian mixed forests of the Mura, Drava and Danube floodplains and their connectivity with the natural river dynamics, on which they depend.

Long-term goal N°1 “Ecological Conservation and ecosystem services” in the Common Work Plan (CWP) of the TBR MDD, which was adopted by the 5 Mura-Drava-Danube countries, refers to the restoration and preservation of these habitats: “In the TBR MDD area, the natural processes of a dynamic river and the associated floodplains is preserved and/or restored, as well as the natural hydrological and natural hydro-morphological regime and the corridor function of rivers. The ecological connectivity will be improved and maintained. As a result, there will be a positive influence on the conservation of key species and habitats on a long-term scale.”

For steering the implementation of the CWP of the TBR MDD a Steering Committee (SC) was formed, consisting of representatives of the respective ministries and public institutions of the five TBR countries. On its first meeting in December 2021, after designation of the TBR MDD the SC decided to prepare and submit this joint 5-country LIFE restoration project. The SC is also reflected in the structure of the project as Advisory Board.

The focus of “LIFE RESTORE for MDD” is on the preservation and restoration of the priority habitat type HT 91E0\* Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) and HT 91F0 Riparian mixed forests of Quercus robur, Ulmus laevis and Ulmus minor, Fraxinus excelsior or Fraxinus angustifolia along the great rivers (Ulmenion minor). This will be achieved in an integrated and transboundary conservation effort between 17 partners across the five countries including water managers, nature conservationists, foresters, protected area managers, regional managers and NGOs.

## Related programmes and other donor activities

Public Enterprise Vojvodinašume has already implemented the impressive number of projects in relation to preservation and restoration of protected habitats and natural areas:

- LIFE programme: WILDisland - The Danube Wild Island Habitat Corridor (2021-2027)

- Interreg programme: Sava TIES project - Preserving Sava River Basin Habitats through Transnational Management of Invasive Alien Species (2018 - 2021)

- Interreg DTP programme: CoopMDD - Transboundary Management Programme for the planned 5-country Biosphere Reserve “Mura-Drava-Danube” (2017 - 2019)

- SEE programme: DANUBEparksCONNECTED - Bridging the Danube Protected Areas towards a Danube Habitat Corridor (2017 - 2019)

- IPA CBC HU-SRB: WILDCOND - Wildlife health and conservation of selected NATURA 2000 species within the Danube Cross-border region in Serbia and Hungary (2012 - 2014).

# OBJECTIVES & EXPECTED OUTPUTS

## Overall objective

The overall objective (Impact) to which this action contributes is:

Preserving and restoring floodplain forest habitats along the Mura-Drava-Danube rivers - conservation and restoration of the largest contiguous riparian forest system in the Danube River Basin.

## Specific objective(s)

The specific objective (Outcome 1) of this contract is as follows:

* Expert services for development of technical documentation for the revitalization of the Monoštor rit for project: LIFE RESTORE for MDD.

## Expected outputs to be achieved by the contractor

The service will be paid on the basis of the delivery of the specified output(s). Payments might be totally or partially withheld if the contractual result(s) have not been reached in conformity with the detailed terms of reference. Payment(s) is/are based on the approval of this/these deliverable(s). Partial payment has to be determined according to the partial implementation of the output(s).

The expected outputs of this contract are as follows:

* Revision of technical documentation for the northern part of the “Monoštorski rit ”
* Revision of technical documentation for the "Čustatov" pond
* Elaboration of the technical documentation for the new floodgate on the locality "Prolaz Madam Keti"
* Elaboration of the proposal for maintaining of the southern part hydrological system of Monoštor forests.

# ASSUMPTIONS & RISKS

## Assumptions underlying the project

• Availability of financial resources for the project needs;

• Involved staff responsible, competent and motivated;

• The persons involved in project management (internal and external staff) maintain regular and continuous communication within the partnership and with the Programme authorities.

## Risks

Not applicable.

# SCOPE OF THE WORK

## General

### Description of the assignment

For the successful implementation of project “*Preserving and restoring floodplain forest habitats along Mura-Drava-Danube rivers*”, the Consultant will provide Expert services for development of technical documentation for the revitalization of the Monoštor ritaccording to the needs of projectLIFE RESTORE for MDD and in line with LIFE Programme requirements.

### Geographical area to be covered

Monoštorski rit, AP Vojvodina, Republic of Serbia

### Target groups

The project’s target groups:

- EU-institutions & policy makers,

- National and regional public authorities,

- Infrastructure and (public) service providers,

- International organisations and conventions,

- Universities, scientific institutions,

- Protected Area Networks,

- Interest Groups incl. NGOs,

- Cities and local municipalities,

- General public.

## Specific work

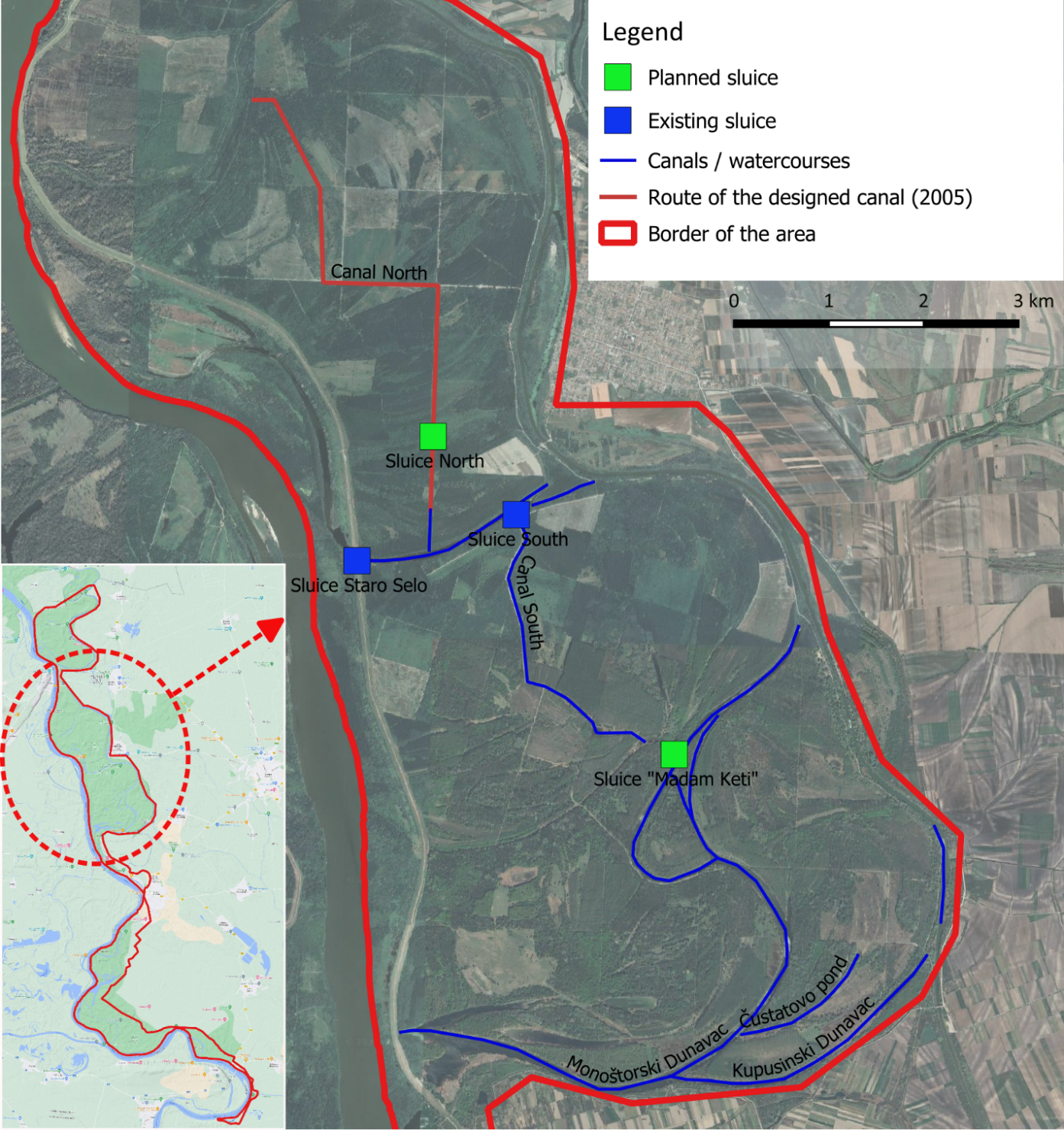
For the purpose of ensuring proper project implementation**,** Expert services for development of technical documentation for the revitalization of the Monoštor rit will be arranged for in the framework of project: LIFE RESTORE for MDD.

Please find below the detailed task assignment for this service contract:

TASK: Development of technical documentation for the revitalization of the Monoštor rit.

**I. INTRODUCTION:**

The area of the Monoštor Rit has been outside the influence of flooding from the Danube River since 1965, due to the construction of the Danube embankment and the Danube–Tisa–Danube canal (Prigrevica–Bezdan). The subject area is part of the Special Nature Reserve (SNR) "Upper Danube," which was declared a special nature reserve in 2001 (Regulation on the Protection of the Special Nature Reserve Upper Danube, “Official Gazette of the Republic of Serbia,” Nos. 45/2001, 81/2008, and 107/2009).



In order to improve habitat conditions, the need to adapt the regime of groundwater and surface water arose, as well as the soil water–air regime, to meet the needs of the plant and animal species characteristic of wetland (rit) ecosystems. For this purpose, technical documentation for the revitalization activities of the Monoštor Rit area was prepared about twenty years ago, during which the entire area was divided into two spatial units: "Šmaguc–Kalandoš" (northern part of the Monoštor Rit) and "Siga–Kazuk" (southern part of the Monoštor Rit).

Under the current conditions, the concept of water regime management in the area of the Monoštor Rit is based on the inflow of water into the wetland through the intake-discharge sluice 'Staro Selo', which is located on the Danube embankment of the first line of defense (km 41+855). When the Danube reaches an appropriate water level (220 cm at the Bezdan hydrological station), water is released through the "Staro Selo" sluice gate into the old Danube riverbed, known as the "Stari Dunavac." The water delivery system functions as follows: water is further transported via the Stari Dunavac to the North Canal, which supplies the northern part of the wetland, and the South Canal, which supplies the southern part of the wetland. The North Canal is only partially constructed, while the South Canal is fully constructed, including the dividing/separating sluice gate "Jug" at the canal's inlet, along with lower-order dual-purpose canal and accompanying structures. Water distribution management is simplified and based on the operation of sluice gates. In other words, once the southern part of the Monoštor Wetland is "filled," the separating sluice "Jug" is closed, and water is then directed to the northern section. However, due to the absence of a completed northern section of the system, as well as the non-functionality of the existing dividing/separating sluice gate, the full-scale water supply and filling of the Monoštor Wetland has, in practice, never been fully achieved.

In the previous period, the following study and technical documentation related to the regulation of the water regime for the subject area was developed:

1. The Study of hydrotechnical arrangement of Monoštorski Rit with hydrologic-hydraulic study and research (Jaroslav Černi Water Institute, Belgrade, 2024), which presents the results of activities carried out with the aim of understanding the current state of water management in the wider area, as well as the results of exploratory works, which form the basis for further development of the technical documentation. The study comprises the following volumes:

• Project report on geodetic works,

• Hydrological-hydraulic study of the Danube River (from km 1367 to km 1425),

• Project report on geotechnical conditions for construction,

• Monitoring of Groundwater, Surface Water, and Precipitation,

• Study of hydrotechnical arrangement of Monoštorski Rit.

2. Hydro-Technical Regulation of the "Kalandoš" Area – Main design of the Sever Canal (Water Management Company “Zapadna Bačka,” Sombor, 2005): The main design of the Sever Canal represents part of the revitalization project for the entire "Siga-Kazuk-Kalandoš" area, aiming at the partial restoration of hydrological conditions as they existed prior to the construction of the flood protection embankments and the Danube–Tisa–Danube (DTD) canal Prigrevica–Bezdan. This regulation would provide conditions for managing the water regime in this area in accordance with the requirements of the area’s user, the public enterprise “Vojvodinašume,” and in ways defined by the Regulation on the Declaration of the Special Nature Reserve (SNR) “Upper Danube.” Activities under this project were only initiated but were never fully completed.

3. Main Design of the Separation sluice gate on the Southern Canal of the “Siga-Kazuk” Hydrosystem (DD “Hidroinvest DTD”, Novi Sad, 1994): The main design represents a detailed elaboration of the Conceptual Design from 1992, which envisaged the installation of a separating sluice gate at the very beginning of the southern branch of the canal for filling and draining the area.

4. Geomechanical basic design data and Analysis of the Filtration Stability of the Sluice gates as a Basis for the Main Design of Surface Water Supply to the “Siga-Kazuk” Area (Jaroslav Černi Water Institute, 1993): Exploratory works were conducted at the locations designated for the installation of the sluice gates, specifically the discharge sluice gate“Bački Monoštor” and the separation sluice gate “Jug.” This document presents the results of investigative drillings and laboratory soil testing.

5. Conceptual Design for the Regulation of the Surface Water Regime in the “Siga-Kazuk” Area (DD “Hidroinvest DTD”, Novi Sad, 1992)):

a. Volume 1: Technical Solution and Structures, and

b. Volume 2: Canal Network.

The project documentation pertains to the regulation of the southern part of the area (canals and associated structures), and all revitalization activities of the “Siga-Kazuk” system were completed in 2003.

6. Hydrological Study of the Monoštor Rit Siga-Kazuk (Institute for Water Management, Faculty of Agriculture, Novi Sad, 1988): The hydrological study presents an analysis of the water regime in the “Siga-Kazuk” area, as well as its impact on vegetation and proposed measures to prevent ecosystem degradation in the area.

7. Study of Hydrographic, Topographic, Geotechnical, Hydrological, and Climatological Baselines for the Conceptual Design of Freshwater Fisheries in the “Siga-Kazuk” Area (1960): The document represents a technical report presenting climatological and hydrological data (primarily for the period 1920–1960), as well as the results of the analysis of these data.

The planning documentation covering the subject area is as follows:

1. Spatial Plan of the Special Purpose Area of the Special Nature Reserve Upper Danube (“Official Gazette of the Autonomous Province of Vojvodina,” No. 3/12),

2. Spatial Plan of the City of Sombor, Public Enterprise “Urbanizam” Sombor, 2013,

3. Spatial Plan of the Municipality of Apatin, Public Enterprise “Urban Planning Institute of Vojvodina,” Novi Sad, 2013 (Amendments and supplements to the Spatial Plan of the Municipality of Apatin, Public Enterprise “Urban Planning Institute of Vojvodina,” Novi Sad, 2023, are currently under public review),

4. Regional Spatial Plan of the Autonomous Province of Vojvodina 2021–2035, Public Enterprise “Urban Planning Institute of Vojvodina,” Novi Sad, 2022.

**II. OBJECTIVE AND TASKS**

The objective of the project is the revitalization of the area, based on adapting the water regime of surface and groundwater, as well as the soil water–air regime, to the needs of the living organisms characteristic of wetlands (rits), thereby preserving the fundamental values of this unique habitat from further disappearance. This objective can be achieved through the construction of a dual-purpose canal system with accompanying structures that will enable controlled water inflow into the area up to a specified-target level, flooding the area as needed, and subsequently draining part of the introduced water back into the receiving water bodies when the demand for elevated internal water levels ceases..

To carry out the revitalization activities of the Monoštor Rit area, it is necessary to prepare -technical documentation for the following:

1. Hydro-technical regulation of the northern part of the Monoštor Rit, which includes the construction of the “Sever” canal, associated structures (sluice, culvert), as well as secondary canals connecting the “Sever” canal with depressions and flood zones;

2. Rehabilitation of the southern part of the Monoštor Rit, which includes the dredging and rehabilitation of the “Jug” canal and the reconstruction of the “Jug” separation sluice;

3. Construction of a sluice at the “Prolaz Madam Keti” site.

4. Revitalization/dredging of the Čustatovo pond (without connection to the Monoštorski Dunavac).

In addition to the above, it is necessary to carry out:

1. Updating and verification of the existing hydrological-hydraulic study, and

2. Development of a hydrodynamic groundwater model.

This Terms of Refernce (ToR) relates solely to the preparation of the aforementioned study-technical documentation, as detailed below.

All technical solutions for water regime regulation must be conceived with a critical review of the existing study and technical documentation, fully respecting the maximum condition and dimensions of existing water structures, and in accordance with the applicable planning documentation and legal regulations.

**III. SCOPE AND CONTENT OF DELIVERABLES**

The activities covered by this ToR include the preparation of study-technical documentation and reports for the construction and rehabilitation of structures, as well as dredging works.

The study-technical documentation must be prepared based on the guidelines from the Study on the Hydro-Technical Regulation of the Monoštor Rit and other relevant data sources (results of engineering-geological exploratory works, geodetic surveys, hydrological-hydraulic studies, monitoring, as well as based on the results of analyses of groundwater, which are the subject of this ToR), along with other materials provided by the Contracting Authority (cadastral data in digital form (DKP)). It is necessary to update and verify the existing hydrological-hydraulic study.

A detailed description of each deliverable item is provided below:

**III.1 Deliverable 1 – Technical Documentation for the Hydraulic Engineering Works in the Northern Part of the Monoštor Rit, Construction of the Sluice at the "Prolaz Madam Keti" Site, and Commissioning of the "Jug" Sluice**

The hydro-technical structures of the Monoštor Rit, specifically the canals in the northern part, the “Sever” sluice, and the “Prolaz Madam Keti” sluice, represent new construction within the protected area (part of the Special Nature Reserve). The “Jug” sluice is an existing structure located at the beginning of the eponymous canal, where it is necessary to install hydromechanical equipment within the existing dimensions to ensure the functionality of the water facility. Since the “Jug” sluice does not have a usage permit nor water management documentation, the procedure must be conducted for it in the same manner as for the construction of new structures.

In accordance with the above mentioned, it is necessary to prepare complete technical documentation for these structures (canal network with associated facilities, the “Sever” sluice, the “Prolaz Madam Keti” sluice, and the “Jug” sluice) as prescribed by the Law on Planning and Construction and other relevant legal regulations.

To comply with the procedure defined by the Law on Planning and Construction, for the construction of the subject facilities (Article 133, paragraph 2, item 9a; Article 134), it is necessary to prepare the following technical documentation: Conceptual Design (IDR), Preliminary Design with Feasibility Study (ID+SO), Design for Construction Permit (PGD), and Design for Performance of Works (PZI). In addition to the aforementioned technical documentation, it is required to prepare accompanying Elaborates and Studies as prescribed by the current Law on Planning and Construction and the Rulebook on the Content, Method, and Procedure for Preparation and the Procedure for Control of Technical Documentation (“Official Gazette of the Republic of Serbia,” No. 96/2023; hereinafter referred to as the “Rulebook”).

The following provides a description of the contents of the technical documentation.

### III.1.1. Geodetic Works Report

### The Geodetic Works Report should provide the geospatial basis necessary for the preparation of the Conceptual Design. Prior to commencing the preparation of the Conceptual Design, the Contractor shall update and verify the existing Geodetic Works Report through supplementary geodetic surveys.

The outline content of the Geodetic Works Report is as follows:

* General documentation;
* Technical report;
* Graphic attachments: Cadastral topographic plan certified by the responsible geodetic works designer and a licensed geodetic organization, along with the results of the geodetic surveys.

### III.1.2. Hydrological-Hydraulic Study

### Prior to the commencement of the preparation of the Conceptual Design, the Contractor shall update and verify the existing hydrological-hydraulic study (the result of the Study of hydrotechnical arrangement of Monoštorski Rit), including, if necessary, the extension of relevant hydrological and meteorological data series, or alternatively, prepare a completely new hydrological-hydraulic study based on the content of the existing one. Within the study, the Contractor shall consolidate all results into conclusions accompanied by guidelines for further development of the technical documentation.

### The hydrological-hydraulic study, together with the Conceptual Design, shall be submitted with the application for the issuance of location requirements. Based on the hydrological-hydraulic study, the Contracting Authority will obtain an opinion from the Republic Hydrometeorological Institute

### III.1.3. Conceptual Design

The Conceptual Design represents a depiction of the planned concept of the facility and is prepared for the purpose of obtaining location requirements. The Conceptual Design must necessarily include the data required for the issuance of location requirements.

The Conceptual Design for engineering structures includes a project that defines the facility within the space, i.e., those parts by discipline that are required for the issuance of location requirements, in accordance with professional standards.

Within the Conceptual Design, it is necessary to provide all the data required for determining location requirements and to present:

- the construction concept of the “Sever” canal with associated structures (sluice, culvert) and secondary canals for connecting the “Sever” canal with existing depressions,

- the construction concept of the “Prolaz Madam Keti” sluice,

- the reconstruction concept of the “Jug” sluice.

Based on geodetic surveys, on-site conditions, land acquisition possibilities, data obtained during site visits, and the results of exploratory works planned for this phase of the technical documentation, it is necessary to define the alignments and locations of the hydro-technical regulation structures in the northern part of the Monoštor Rit, as well as the locations of the sluices.

The Conceptual Design must be harmonized with the planning documentation on the basis of which the location requirements are issued.

The Conceptual Design should include the following components:

- Volume 0 – Main Volume.

- Volume 1.1 – Engineering Structure Design – Hydro-technical Regulation of the Northern Part of Monoštor Rit,

- Volume 1.2 – Engineering Structure Design – sluice at the “Prolaz Madam Keti” Site,

- Volume 1.3 – Engineering Structure Design – “Jug” sluice,

- Volume 2.1.1 – Construction Works Design – “Sever” sluice,

- Volume 2.1.2 – Construction Works Design – Sluice at the “Prolaz Madam Keti” Site,

- Volume 2.1.3 – Construction Works Design – “Jug” sluice,

- Volume 6.1 – Mechanical Installations Design – “Sever” sluice,

- Volume 6.2 – Mechanical Installations Design – sluice at the “Prolaz Madam Keti” Site,

- Volume 6.3 – Mechanical Installations Design – “Jug” sluice.

The contents of the volumes of the Conceptual Design must comply with the regulation governing the detailed content of technical documentation. In addition to the Conceptual Design, the Hydrological-Hydraulic Study must also be submitted. A description of all components of the Conceptual Design (IDR) is provided below.

**Main Volume of the Conceptual Design**

The Main Volume contains information about the project and the participants involved in its development, as well as other data and documents relevant for the issuance of location requirements.

Within the Main Volume, it is necessary to provide a short description of the technical solution for the main and secondary canals, as well as associated structures (sluice, culvert), the technical solution for the sluices covered by the design, a description of the spatial coverage of the system, an investment cost estimate, and site plans showing the canal routes and associated structures, sluices, inspection paths along the canals, and access roads for construction, as well as the main dimensions on cadastral and topographic maps.

**Volume No. 1 of the Conceptual Design – Engineering Structure Design**

Each of the volumes labeled as Volume 1 must contain the content as outlined below. This part of the Conceptual Design (Volume 1) addresses the concept of hydro-technical regulation of the northern part of Monoštor Rit, which includes the development of technical solutions for the continuation of the construction of the “Sever” canal and its associated structures (sluices, culverts), as well as the development of technical solutions for the construction of the sluice on the “Jug” canal.

The Engineering Structure Design should include, but is not limited to, the following components:

• Introduction: It is necessary to provide a description of the area under consideration and basic information about the area, existing structures, the significance of the hydro-technical facilities within the broader area, and an assessment of the required and available water quantities. This section should include a description of the conditions and constraints for the construction of the facility.

• Presentation of the basic design data used for the development of technical solutions: The basic design data for the development of technical solutions are the materials that form an integral part of the Study of Hydro-technical Regulation of Monoštor Rit, including the hydrological-hydraulic study and investigative works conducted for the LIFE project, hereinafter referred to as the "Study of hydrotechnical arrangement of Monoštor Rit" (which includes results from engineering-geological investigative works, geodetic surveys, hydrological-hydraulic studies, and monitoring).

• Description of the technical solution (construction of the canal, associated structures, sluices): It is necessary to provide a technical description, intended purpose, basic dimensions of the canal and structures covered in the volume, as well as inspection paths and associated structures, if required.

• Report on Conducted Hydraulic Analyses: The report should include relevant results of the performed hydrological and hydraulic analyses (crucial for the dimensioning of hydro-technical structures)—such as water level lines in the Danube riverbed, calculation results of the capacity of existing and planned canals, depiction of flood zones, as well as conclusions drawn from the performed hydraulic calculations.

• Investment Value Assessment for the Subject Structures.

• Graphical Attachments: It is necessary to provide a site plan showing the designed structures within the system. Include longitudinal and representative cross-sections of the canals, as well as characteristic drawings of the structures covered by the technical documentation.

**Volume 2.1 of the Conceptual Design – Construction Works Design**

The Construction Works Design is essential for all sluices and possibly other structures, and should include:

• An introduction presenting the area under consideration and the existing structure.

• A description of the technical solution for the structure.

• A presentation of the analyses performed.

• Estimated value of works.

• Graphic attachments for the sluices covered by the project.

**Volume 6 of the Conceptual Design – Mechanical Installations Design**

The mechanical installations design is necessary for all sluices and possibly other structures, and should include:

• An introduction presenting the area under consideration and the existing structure.

• A description of the technical solution for the mechanical installations.

• A presentation of the analyses performed.

• Estimated value of works.

• Graphic attachments illustrating the technical design of the mechanical equipment

### III.1.4. Feasibility Study with Preliminary Design

The preliminary design is a design that defines the purpose, location, shape, capacity, technical-technological and functional characteristics, and appearance of the structure; it describes the works and demonstrates compliance with the basic requirements for the structure, depending on its type and class, as well as the works to be performed. The preliminary design is prepared for the purpose of developing the Feasibility Study, since the area planned for construction belongs to the Special Nature Reserve “Gornje Podunavlje” (structures pursuant to Article 133 of the Law on Planning and Construction).

For structures for which location requirements have been issued, the Preliminary Design further elaborates the planned concept of the structure in accordance with the location requirements. Alignment of the Conceptual Design with the Preliminary Design is mandatory only with respect to the essential elements on the basis of which the location requirements, i.e., the conditions for design and connection, were established.

In cases where the planned works on the structure impact the fulfillment of the basic requirements for the structure, appropriate elaborations and studies specifying the methods for satisfying these basic requirements shall be prepared as attachments to the Preliminary Design.

The Preliminary Design shall include the following components:

- Volume 0 – Main Volume

- Volume 1.1 – Engineering Structure Design – Hydraulic Engineering Arrangement of the Northern Part of Monoštorski Rit,

- Volume 1.2 – Engineering Structure Design – sluice at the “Prolaz Madam Keti” Site,

- Volume 1.3 – Engineering Structure Design – “Jug” Sluice,

- Volume 2.1.1 – Construction Works Design – “Sever” Sluice,

- Volume 2.1.2 – Construction Works Design – Sluice at the “Prolaz Madam Keti” Site,

- Volume 2.1.3 – Construction Works Design – “Jug” Sluice,

- Volume 6.1 – Mechanical Installations Design – “Sever” Sluice,

- Volume 6.2 – Mechanical Installations Design – Sluice at the “Prolaz Madam Keti” Site,

- Volume 6.3 – Mechanical Installations Design – “Jug” Sluice

The contents of the volumes of the Preliminary Design must comply with the regulations governing the detailed content of technical documentation.

Along with the Preliminary Design, it is necessary to submit the Hydrological-Hydraulic Study, the Elaborate on Engineering-Geological and Hydrogeological Conditions for the Construction of Structures, the Feasibility Study, the Environmental Impact Assessment Study , and the approval of the Environmental Impact Assessment Study (according to the applicable regulation, if the need for an environmental impact assessment has been determined in accordance with the regulations governing this area, or a decision confirming that such an assessment is not required).

**Main volume of the Preliminary Design**

The main volume contains information about the project and the participants involved in its preparation, as well as other relevant data and documents.

Within the Main Volume, it is necessary to provide a concise description of the technical design of the main and secondary canals, as well as the associated structures (sluices, culverts), the technical design of the sluices, a description of the spatial extent of the system, a preliminary cost estimate at the conceptual design level, along with site plans showing the alignment of the canals and associated structures, inspection paths along the canals, access roads for construction, and the main dimensions presented on cadastral and topographic maps.

**Volume No. 1 of the Preliminary Design – Engineering Structure Design**

Each of the listed volumes marked with number 1 should contain the content as shown below. The Engineering Structure Design should include the following sections:

• Introduction: It is necessary to provide a description of the considered area and basic information on existing structures, a description of water demand, and a description of available water quantities. The description should be adapted to the specific object that the respective volume covers. This chapter should include a description of conditions and limitations for the construction of the object.

• Presentation of utilized basic design data: surveying, engineering-geological, hydrogeological, hydrological, and others.

• Description of the technical solution for the construction of objects: It is necessary to provide a technical description of the canals and structures covered by the relevant part of the project, inspection paths, and accompanying objects. The technical description should include the description of the purpose and main dimensions of the objects.

• The report on the performed hydraulic analyses should include a presentation of the hydraulic model used for the analyses, a description of the boundary conditions, input data, results of hydraulic calculations relevant for the dimensioning of hydraulic engineering structures and sluices— water level lines in the Danube riverbed, calculation results of the capacity of existing and planned canals, a presentation of flood zones, as well as conclusions drawn from the performed hydraulic calculations.

• Scope and cost estimate of works (at the level of the Preliminary Design) for the canals and structures covered by this part of the technical documentation.

• Graphic attachments: It is necessary to provide a site plan showing the designed canals and other structures within the system. Longitudinal and typical cross-sections of the channels should be given, as well as characteristic drawings of the structures, in accordance with the specific object covered by the respective volume.

**Volume no. 2.1 of the Preliminary Design – Construction Works Design**

The Construction Works Design is required for all sluices and should contain:

• Introduction with a presentation of the area under consideration and the existing structure.

• Description of the technical design of the structure, including stability control and protection measures for the excavation site necessary for the construction of the structure.

• Presentation of the performed structural stability calculations and static analyses for this level of documentation – including a description of the methodology, input data, and presentation of stability calculation results, and conclusions.

• Bill of quantities and cost estimate.

• Graphic attachments for the sluice that is the subject of the project.

**Volume no. 6 of the Preliminary Design – Mechanical Installations Design**

The Mechanical Installations Design is necessary for all sluices and should contain:

• Introduction presenting the analyzed area and the existing structure.

• Description of the technical solution for the selection and installation of mechanical equipment for the sluice that is the subject of the project.

• Presentation of the calculations performed.

• Bill of quantities and cost estimate.

• Graphic attachments showing the technical designs of the installation of mechanical equipment for the sluice that is the subject of the project.

**Elaborate on engineering-geological and hydrogeological conditions for the construction of the structures**

For the preparation of this Elaborate, the following are used: the report on geotechnical construction conditions (resulting from the Study of hydrotechnical arrangement of Monoštorski Rit), results of engineering-geological investigation works (resulting from the Study of hydrotechnical arrangement of Monoštorski Rit), results of monitoring surface and groundwater, as well as results of other conducted analyses. The contractor must verify the results of the conducted investigations through possible supplementary engineering-geological investigations.

The Elaborate should contain the following sections:

• Presentation and assessment of the used engineering-geological, hydrogeological, geotechnical, and other basic design data, as well as the results of the conducted investigative works;

• Presentation and analysis of the geological structure of the wider area;

• Presentation and analysis of geotechnical (engineering-geological and hydrogeological) conditions at the site of the objects, access roads, and others.

The report should include both a textual and a graphical part. The graphical presentation should contain geological maps and relevant geological profiles, appropriate to the level of the technical documentation.

**Feasibility Study**

The Feasibility Study evaluates the justification of the investment in the proposed technical solutions, i.e., it determines the social, financial, market, and economic justification for the construction of new facilities. Within this study, an assessment of possible sources of financing for the selected solution, developed through the Preliminary Design, is also carried out, and a final evaluation of the investment justification is made. The study analyzes investment costs, annual operating costs, as well as costs of routine and capital maintenance according to the mode of operation of the facilities adopted by the Contracting Authority.

The Feasibility Study is prepared in accordance with the Regulation on the content, scope, and method of preparation of the preliminary feasibility study and feasibility study for the construction of facilities (“Official Gazette of the Republic of Serbia,” No. 1/2012) and shall contain:

• Data on the Contracting Authority and the authors of the study;

• Introduction;

• Objectives and purpose of the investment;

• Description of the facility;

• Analysis of the Contracting Authority’s development prospects;

• Methodological basis for the preparation of the study;

• Technical-technological solution in the preliminary design;

• Market aspects;

• Spatial aspects;

• Environmental aspects;

• Economic costs;

• Gains and benefits;

• Financial efficiency with an assessment of profitability and liquidity;

• Socio-economic efficiency;

• Analysis of investment sensitivity and risks;

• Analysis of financing sources, financial obligations, and timeline (dynamics);

• Analysis of organizational and human resource capacities;

• Conclusion on the justification of the investment.

**III.1.5. Design for Construction Permit**

The **Design for Construction Permit** is a set of mutually coordinated design documents that define the position and capacity of the facility on the site, its functionality in terms of technological and other requirements, spatial design, selection of the structural system, dimensioning of the main structural elements, the choice of construction products and the required performance in relation to their essential characteristics, installations, and selection of equipment. Through this, compliance with location requirements and basic requirements for the structure is ensured, among other aspects.

The Design for Construction Permit is prepared for the purpose of obtaining a construction permit. It provides a further elaboration of the planned concept of the facility, in accordance with the issued location requirements. Alignment of the Design for Construction Permit with the Conceptual Design is mandatory only with respect to the essential elements based on which those location requirements—i.e., the conditions for design and connection—were determined.

The Design for Construction Permit must be prepared in accordance with the technical solution from the Preliminary Design and the report of the Revision Commission.

The Design for Construction Permit must contain the following components:

- Volume 0 – Main Volume,

- Volume 1.1 – Engineering Structure Design – Hydraulic Engineering of the Northern Part of Monoštorski Rit,

- Volume 1.2 – Engineering Structure Design – Sluice at the „Prolaz Madam Keti“ Location,

- Volume 1.3 – Engineering Structure Design – Sluice “Jug”,

- Volume 2.1.1 – Construction Works Design – Sluice “Sever”,

- Volume 2.1.2 – Construction Works Design – Sluice at the “Prolaz Madam Keti” site,

- Volume 2.1.3 – Construction Works Design – Sluice “Jug”,

- Volume 6.1 – Mechanical Installations Design – Sluice “Sever”,

- Volume 6.2 – Mechanical Installations Design – Sluice at the location "Prolaz Madam Keti",

- Volume 6.3 – Mechanical Installations Design – Sluice "Jug".

The content of the volumes of the Design for Construction Permit must be in accordance with the regulation that more precisely regulates the content of the technical documentation (the Rulebook).

Along with the application for obtaining the construction permit decision, in addition to the listed volumes of the Design for Construction Permit (PGD), it is also necessary to submit: The elaborate on engineering-geological and hydrogeological conditions for the construction of the structures2 , the approval decision for the Waste Management Plan, and the extract from the Design for Construction Permit.

Excerpt from the Design for Construction Permit contains basic information about the facility and the participants in the construction, location data, and other documents that demonstrate the compliance of the designed facility with the location requirements, fulfillment of the basic requirements for the facility, and other data relevant for decision-making. According to the Regulation, in addition to the basic content, the Excerpt must also include a summary of the technical control report.

The following provides a description of all parts of the Design for Construction Permit (PGD).

**Main Volume of the Design for Construction Permit**

The main volume contains information about the project and the participants involved in its preparation, as well as other data and documents that are essential for obtaining the construction permit.

Within the Main Volume, it is necessary to provide a concise description of the technical solution for the canals and accompanying structures (sluices, culverts), the technical solution for the sluices, a description of the spatial scope of the system, a bill of quantities for the construction works, as well as site plans showing the canal routes and accompanying structures, inspection paths alongside the canals, access roads for construction, and the main dimensions on cadastral and topographic maps.

**Volume No. 1 of the Design for Construction Permit – Engineering Structure Design**

Each of the listed volumes labeled with the number 1 should have the content as shown below. The Engineering Structure Design shall contain the following sections:

• Introduction.

• Overview of the utilized base data: geodetic, engineering-geological, hydrogeological, hydrological, and others.

• Description of the technical solution for the construction of the canal and accompanying structures: A technical description must be provided for the canal and the structures addressed in the relevant part of the project, including inspection paths and auxiliary facilities. The technical description should include the intended purpose and basic dimensions of the structures.

• The report on the conducted hydraulic analyses should include a presentation of the hydraulic model used for the analyses, a description of the boundary conditions and input data, the results of hydraulic calculations relevant for the dimensioning of the sluice structures—such as water level profiles in the Danube riverbed—the results of capacity calculations for existing and planned canals, a delineation of flood-prone areas, as well as conclusions derived from the performed hydraulic analyses.

• Bill of quantities and cost estimate (at the level of the Design for Construction Permit) for the canals and structures covered by this part of the technical documentation.

• Graphic attachments: A site plan must be provided, showing the designed canals and other structures within the system. Longitudinal and characteristic cross-sections of the canals, as well as characteristic drawings of the structures, must be included, in accordance with the specific structure covered by the relevant volume.

**Volume No. 2.1 of the Design for Construction Permit – Construction Works Design**

The Construction Works Design is required for all sluices and must include the following:

• Introduction with an overview of the considered area and the existing structure.

• Presentation of the technical solution for the structure of the facility, stability control, and protection of the construction pit required for the construction of the facility.

• Presentation of performed structural stability and static calculations – description of methodology, input data, and presentation of calculation results and conclusions.

• Bill of quantities and cost estimate.

• Graphical attachments for the sluice that is the subject of the project.

**Volume No. 6 of the Design for Construction Permit – Mechanical Installations Design**

The Mechanical Installations Design is required for all sluices and should contain the following:

• Introduction with a presentation of the examined area and the existing structure.

• Presentation of the technical solution for the selection and installation of mechanical equipment for the sluice that is the subject of the project.

• Presentation of the performed calculations.

• Bill of quantities and cost estimate.

• Graphic attachments showing the technical solutions for the installation of mechanical equipment for the sluice that is the subject of the project.

**Waste Management Plan**

Construction waste is waste generated during the execution of construction works on structures, demolition or removal of a structure or part of a structure and/or facilities and engineering structures, including remediation and reconstruction, as well as during excavations resulting from these works.

The producer of construction and demolition waste is obligated to prepare a construction and demolition waste management plan, obtain approval for the Waste management plan, and organize its implementation.

According to the Regulation on the Method and Procedure of Managing Construction and Demolition Waste (“Official Gazette of the Republic of Serbia,” Nos. 93/2023, 94/2023-corr.), the Construction and Demolition Waste Management Plan must contain information on:

1. The types and planned quantities of waste that will be generated by activities at the construction site during construction, demolition, adaptation, reconstruction, and other works on the facility or part of the facility;

2. The location of containers for collecting construction and demolition waste;

3. The method of separate waste collection, preparation for transport, and temporary storage of the respective waste;

4. Procedures for handling hazardous waste that is expected to arise during the execution of works;

5. Methods for the reuse of construction and demolition waste;

6. The quantity and type of construction and demolition waste planned to be delivered to the operator of the waste reuse facility, or the planned quantities directed to processing/recycling;

7. The intended methods for treatment of construction and demolition waste;

8. The estimated volume of earth excavation resulting from construction works on the site and the handling procedures for it.

### III.1.6. Design for Performance of Works

The **Design for Performance of Works** is a set of mutually coordinated designs required for the performance of construction, craft, installation, and other works. It defines the construction-technical, technological, and operational characteristics of the facility along with its equipment and installations; the methods for quality control and assurance of quality of construction products; the technical, technological, and organizational solutions for the construction of the facility; the investment value of the facility; as well as the conditions for the facility’s maintenance.

The Design for Performance of Works elaborates on the details and technological solutions defined in the Design for Construction Permit, and it is developed based on the decision approving the execution of those works.

The Design for Performance of Works is developed for the purposes of constructing the facility and carrying out the works, and it may be prepared in phases or stages, in accordance with the construction schedule.

The Design for Performance of Works is mandatory for the construction of facilities for which a construction permit has been obtained.

The Design for Performance of Works shall include the following components:

- Volume 0 – Main Volume

- Volume 1.1 – Engineering Structure Design – Hydraulic Engineering Development of the Northern Part of Monoštor Rit,

- Volume 1.2 – Engineering Structure Design – Sluice at the “Madam Keti Passage” site,

- Volume 1.3 – Engineering Structure Design – Sluice “Jug”,

- Volume 2.1.1 – Construction Works Design – Sluice “Sever”,

- Volume 2.1.2 – Construction Works Design – Sluice at the “Madam Keti Passage” site,

- Volume 2.1.3 – Construction Works Design – Sluice “Jug”,

- Volume 6.1 – Mechanical Installations Design – Sluice “Sever”,

- Volume 6.2 – Mechanical Installations Design – Sluice at the “Madam Keti Passage” site,

- Volume 6.3 – Mechanical Installations Design – Sluice “Jug”.

The content of the volumes of the Design for Performance of Works must comply with the regulation that specifically governs the content of technical documentation (Rulebook).

Along with the Design for Performance of Works, it is necessary to submit the Quality Control and Assurance Program, the Preventive Measures Plan, and the Geodetic Marking Design.

The preparation of the Preventive Measures Plan and the Geodetic Marking Design is the responsibility of the selected Contractor.

**Main volume of the Design for Performance of Works**

The Main Volume contains information about the project and the participants involved in its development, as well as other data and documents relevant for the notice of construction works.

Within the Main Volume, it is necessary to provide a concise description of the technical design of the canal and the accompanying structures (sluices, culverts), the technical design of the sluice, a description of the spatial extent of the system, a cost estimate for the construction works, as well as site plans showing the canal route and accompanying structures, inspection paths along the canals, access roads for construction, and the main dimensions on cadastral and topographic maps.

**Volume No. 1 of the Design for Performance of Works – Engineering Structure Design**

Each of the listed volumes labeled as 1 should have the content as shown below. The Engineering Structure Design should contain the following sections:

• Introduction.

• Presentation of used basic design data: geodetic, engineering-geological, hydrogeological, hydrological, and others.

• Description of the technical solution for the construction of the canals and associated structures: It is necessary to provide a technical description of the structures covered by the relevant part of the design, inspection paths, and associated structures. The technical description should include the purpose and basic dimensions of the structures.

• Report on the performed hydraulic analyses.

• Bill of quantities and cost estimate for the canals and structures covered by this part of the technical documentation.

• Graphical attachments: It is necessary to provide a site plan showing the designed canals and structures within the system. Provide longitudinal and characteristic cross-sections of the canals, as well as characteristic drawings of the structures, details, reinforcement details, reinforcement plans, and reinforcement summaries, all according to the specific structure that the respective volume covers.

**Volume no. 2.1 of the Design for Performance of Works — Construction Works Design**

The Construction Works Design is mandatory for all sluices and should include:

• An introduction presenting the examined area and the existing structure.

• Presentation of the technical solution for the structure, stability control, and protection of the excavation pit necessary for the construction of the structure.

• Presentation of performed stability and static calculations — description of methodology, input data, and presentation of calculation results and conclusions.

• Bill of quantities and cost estimate.

• Graphical attachments for the sluice that is the subject of the project.

**Volume No. 6 of the Design for Performance of Works – Mechanical Installations Design**

The Mechanical Installations Design is mandatory for all sluices and shall include:

• An introduction presenting the considered area and the existing structure.

• A presentation of the technical solution for the selection and installation of the mechanical equipment for the sluice that is the subject of the project.

• A report on the calculations performed.

• Bill of quantities and cost estimate for the works.

• Graphic attachments showing the technical solutions for the installation of the mechanical equipment for the sluice that is the subject of the project.

**The Quality Control and Assurance Program**

The Quality Control and Assurance Program must be prepared in accordance with Article 68 of the Rulebook on the Content, Method, and Procedure for the Preparation and Method of Performing Control of Technical Documentation (“Official Gazette of RS”, No. 96/2023).

**III.2 Deliverable 2 – Report on Dredging and Disposal of Sediment from the "Jug" Canal**

For the preparation of the Report on Dredging and Disposal of Sediment from the "Jug" Canal, the results of the canal’s geodetic survey, as well as sampling and analysis of the deposited sediment (results from the Study of hydrotechnical arrangement of Monoštorski Rit) are used.

It is necessary to systematize the analysis results and perform an assessment of the quantities for dredging, as well as an evaluation of the quality of water and sediment. The proposed dredging and disposal technology must be fully compliant with the Law on Waters, Law on Environmental Protection, Law on Soil Protection, and other relevant laws and accompanying subordinate regulations.

Based on the results of sediment sample analyses, as well as on the estimated quantities, activities related to the handling and disposal of dredged material are defined, provided that the presence of harmful and hazardous substances regulated by the Regulation on Limit Values of Pollutants in Surface and Groundwater and Sediment and Deadlines for Their Achievement (“Official Gazette of the Republic of Serbia,” No. 50/2012) is confirmed.

The proposed technology for dredging and sediment disposal depends on the quantity and quality of the sediment. The proposal for the optimal dredging technology and method of sediment disposal will be aligned with the factual condition established in the summary of the compilation of data.

In accordance with the above, the report should include:

• Presentation of the relevant legal regulations,

• Analysis of the existing technical documentation and available data on the canal network,

• Results of the geodetic survey of the lake, including an estimate of the quantity of material to be dredged,

• Sediment quality (analysis of laboratory test results),

• Summary of the data analysis with conclusions on the handling of dredged material,

• Proposal of the optimal dredging technology,

• Dynamic schedule for the perfomance of works,

• Bill of quantities and cost estimate for the works.

**III.3 Deliverable 3 – Report on Dredging and Disposal of Sediment from Čustatovo Pond**

For the preparation of the Dredging Report for Čustatovo Pond, the results of the geodetic survey of Čustatovo Pond, as well as the sampling and analysis of the deposited sediment (results from the Study of hydrotechnical arrangement of Monoštorski Rit), are used. The required scope and content of the report are presented in Chapter III.2.

**III.4 Deliverable 4 – Groundwater Hydrodynamic Model**

For the purpose of analyzing the groundwater regime in the Monoštorski Rit area, it is necessary to assess the groundwater regime based on a developed hydrodynamic model. Using the collected data from archival documentation and (hydro)geological investigations (including information on the lithological composition of the terrain, filtration characteristics, and results of groundwater level monitoring), a hydrodynamic analysis of the groundwater regime should be conducted using a spatial mathematical model.

The objective of this deliverable is to conduct an analysis that will define the groundwater regime, the method of aquifer recharge, and the interaction with surface waters in the area. The results of groundwater level observations within the monitoring system, along with data collected from archival documentation and conducted geological and hydrogeological investigations, will form the basis for analyzing the interaction between surface and groundwater in the area of interest.

The setup of the mathematical model includes several steps. The first step will define the model domain space, i.e., the model boundaries. In this case, the model boundaries will encompass the area of Monoštorski Rit (see Figure 1). From a geological perspective, the model boundaries will represent the boundary of the alluvium and the Danube river terrace. The subsequent steps will include the schematization of geological and hydrogeological layers by depth, discretization of the flow field, and time step. At the end of the model setup, the boundary conditions and the initial characteristics of the aquifer (filtration properties, specific yield, effective porosity, etc.) will be defined.

After setting up the mathematical model, calibration follows through a series of hydrodynamic calculations simulating the natural conditions of the groundwater regime in sandy-gravelly sediments of the aquifer and clayey-silty sediments of the surface layer. The model calibration will determine the spatial distribution of filtration characteristics under the existing groundwater regime conditions, the distribution of groundwater levels, and the groundwater balance for various hydrological conditions recorded during the monitoring period.

In the next (final) step, which includes predictive calculations, various scenario states within the alluvial plain will be simulated for different Danube river conditions and levels. The impact of the Danube’s water level on the groundwater regime in the protected area will be defined for extreme conditions that are not achieved during the monitoring period, along with an analysis of technical solutions for regulating the groundwater regime according to the criteria set by the Contracting Authority (e.g., the required depth to the groundwater level due to the root system of vegetation, etc.).

Based on the analyses performed, it is necessary to provide recommendations for the further management of the system.

**IV. BASIC DESIGN DATA**

For the purpose of carrying out the specified activities, the Contracting Authority shall provide the following documentation/supporting materials:

• The Project report on geodetic works and the results of geodetic surveys conducted as part of the Study of hydrotechnical arrangement of Monoštorski Rit ,

• Hydrological-hydraulic study of the Danube River (from km 1367 to km 1425) conducted within the Study of hydrotechnical arrangement of Monoštorski Rit ,

• Project report on geotechnical conditions for construction and results of engineering geological investigative works conducted within the Study of hydrotechnical arrangement of Monoštorski Rit,

• Results of groundwater, surface water, and precipitation monitoring at the structures installed as part of previous works, within the Study of hydrotechnical arrangement of Monoštorski Rit, and observations carried out in the previous period,

• The (final) part of the Study of hydrotechnical arrangement of Monoštorski Rit that considers site development and hydrotechnical concept,

• Digital cadastral plan from the competent authority (Republic Geodetic Authority – RGZ) – real estate cadastre,

• Data necessary for the preparation of the Feasibility Study,

• Planning basis for obtaining location requirements and preparation of technical documentation,

• Other available technical documentation and data relevant to the implementation of the specified activities.

In addition to the listed documentation, for the preparation of the subject documentation, the Contracting Authority is obligated to obtain the location requirements necessary for the preparation of the technical documentation, organize the expert review and obtain the report on the performed expert review of the Preliminary Designs, organize the technical review of the Design for Construction Permit and obtain the report on the performed technical review of the Design for Construction Permit, obtain the construction permit, and secure all other approvals required for the implementation of legal procedures.

**V. GENERAL CONDITIONS**

The preparation of technical documentation shall be carried out fully in accordance with the applicable legal regulations:

• Law on Planning and Construction ("Official Gazette of RS", No. 72/09, 81/09-correction, 64/10 Constitutional Court Decision, 24/11, 121/12, 42/13 Constitutional Court Decision, 50/2013 Constitutional Court Decision, 98/2013 Constitutional Court Decision, 132/14, 145/14, 83/18, 31/19, 37/19-other law, 9/20, 52/21 and 62/23);

• Rulebook on the content, method, and procedure for preparation and control of technical documentation ("Official Gazette of RS", No. 96/2023);

• Law on Waters ("Official Gazette of RS", Nos. 30/2010, 93/2012, 101/2016, 95/2018);

• Law on Forests ("Official Gazette of RS", Nos. 30/2010, 93/2012, 89/2015 and 95/2018 - other law);

• Law on Environmental Protection ("Official Gazette of RS", Nos. 135/2004, 36/2009, 36/2009 - other law, 72/2009 - other law, 43/2011 - Constitutional Court decision, 14/2016, 76/2018, 95/2018 - other law, and 95/2018 - other law);

• Law on Nature Protection ("Official Gazette of RS", Nos. 36/2009, 88/2010, 91/2010 - correction, 14/2016, 95/2018 - other law, and 71/2021);

• Law on Mining and Geological Research ("Official Gazette of RS", Nos. 101/2015, 95/2018 - other law, and 40/2021);

• Rulebook on conditions, criteria, and content of designs for all types of geological research ("Official Gazette of RS", Nos. 45/2019 and 72/2021).

All documentation must be submitted electronically in both secured and signed PDF format, as well as in an editable electronic format of the software in which it was created (Word, Excel, CAD, GIS, etc.).

The Contracting Authority will ensure the submission of the prepared electronic documents and communication with the relevant state and municipal authorities.

All necessary conditions, permits, and approvals will be obtained in accordance with legal regulations by the competent holders of public authority, and it is the Contracting Authority’s responsibility, including covering the costs of obtaining such conditions, permits, and other related expenses.

The contractor must also comply with the latest Communication and Visibility Requirements for EU-funded external action, laid down and published by the European Commission. The compliance with this shall be made an output of the contract and the contractors shall include in its reporting what have been accomplished.

## Project management

### Responsible body

Contracting Authority: Public Enterprise “Vojvodinašume" PETROVARADIN, Preradovićeva 2, 21131 Petrovaradin.

### Management structure

Contracting Authority: Public Enterprise “Vojvodinašume" PETROVARADIN, Preradovićeva 2, 21131 Petrovaradin. The responsible person for implementation of the tasks related to this contract on behalf of the Contracting Authority is Ms. Ivana Vasić as project manager.

### Facilities to be provided by the contracting authority and/or other parties

Not applicable.

# LOGISTICS AND TIMING

## Location

Petrovaradin, Autonomous Province of Vojvodina, Republic of Serbia.

## Start date & period of implementation of tasks

The intended start date is the date of signature of the contract by both parties and the period of implementation of the contract will be 14 months from this date. Please see Articles 19.1 and 19.2 of the special conditions for the actual start date and period of implementation.

# REQUIREMENTS

## Personnel

Note that civil servants and other staff of the public administration of the partner country, or of international/regional organisations based in the country, shall only be able to provide input as experts if well justified. The justification should be submitted with the tender and shall include information on the added value the expert will bring as well on any potential interference or conflict of interest of the proposed expert in his/her function as expert and his/her present or previous functions working as civil servant. Moreover proof should be submitted that the expert is seconded or on personal leave.

The selection procedures used by the contractor to select the experts who provide input to the contract must be transparent, must guarantee the absence of professional conflicting interests and the absence of any discrimination based on former or current nationality, gender, place of residence, or any other ground. The findings of the selection panel must be recorded.

All experts must be independent and free from conflicts of interest in the responsibilities they take on.

### 6.1.1. Experts

For quality implementation of the tasks defined in this Terms of References, the Consultant must provide an expert team (directly employed or otherwise contracted for this task) with the following qualifications:

- At least 2 persons with a valid license no. 313 or 314, issued by the Serbian Chamber of Engineers or an adequate license, issued by the competent Ministry or equivalent,

- At least 1 person with a valid license no. 372, issued by the Serbian Chamber of Engineers or an adequate license, issued by the competent Ministry or equivalent,

- At least 1 person with a valid license no. 471, issued by the Serbian Chamber of Engineers or an adequate license, issued by the competent Ministry or equivalent,

- At least 1 person with a valid license no. 391, issued by the Serbian Chamber of Engineers or an adequate license, issued by the competent Ministry or equivalent,

- At least 1 person with a valid license no. 392, issued by the Serbian Chamber of Engineers or an adequate license, issued by the competent Ministry or equivalent,

- At least 1 person with a University degree in Chemistry or equivalent (higher degree will be an advantage).

The Consultant will select the best possible staff to deliver the expected output, and it is up to the Consultant to define the precise inputs of the expert necessary for the task.

The Organisation and Methodology should demonstrate how the contract will comply with these requirements to accomplish the desired output(s). The Organisation and Methodology may include the name of experts and their profiles. Compliance (yes/no answer) of the team (as a whole) with the requirements will be checked, but there will be no marks given to the experts. Additionally, the Consultant should also provide a **statement and copy of valid licences** issued by competent authorities on qualifications of staff included in the Consultant’s offer.

### 6.1.2. Support facilities & backstopping

The costs for support facilities, including backstopping, are included in the tenderer's financial offer.

The Consultant shall provide adequate backstopping services during the project implementation.

The Consultant must meet all equipment and facility requirements necessary for the timely and professional completion of the above-described contract tasks:

- Necessary licensed software,

- Geodetic equipment for recording the coastal strip above the water mirror (total station, GNSS receiver) and an ultrasonic instrument for determining depths, i.e. points of detail under the water mirror;

- Accediteer laboratory services (owned or rented) for physical and chemical tests of sediment, and water and sediment sampling, as required by this ToR.

In addition, the Consultant shall provide necessary support staff to cover the needs for office management and administration, secretarial services, interpretation and translation, drivers, and any other administrative needs during the performance period.

The costs for backstopping and support staff, as needed, are considered to be included in the tenderer's financial offer.

## Office accommodation

Office accommodation for each expert providing input to the contract is to be provided by the Consultant.

## Facilities to be provided by the contractor

The contractor shall ensure that experts are adequately supported and equipped. In particular it must ensure that there is sufficient administrative, secretarial and interpreting provision to enable experts to concentrate on their primary responsibilities. It must also transfer funds as necessary to support their work under the contract and to ensure that its employees are paid regularly and in a timely fashion.

## Equipment

**No** equipment is to be purchased on behalf of the contracting authority / partner country as part of this service contract or transferred to the contracting authority / partner country at the end of this contract. Any equipment related to this contract which is to be acquired by the partner country must be purchased by means of a separate supply tender procedure.

# REPORTS

## Reporting requirements

The Consultant will submit the following reports in English in one original and one copy:

* **Interim reports** shall be submitted in November–December 2025 and June-July 2026. The approval of interim reports will be the basis for issuing respective interim payments as indicated in the Special Conditions. The interim reports must be provided along with the corresponding proforma invoice.
* **Final report** at the end of the contract, upon all contract results have been achieved. The approval of the final report by the Contracting Authority will be the basis for issuing final payment as indicated in the Special Conditions. The final report must be provided along with the corresponding invoice.

## Submission and approval of reports

The report referred to above must be submitted to the project manager identified in the contract. The project manager is responsible for approving the reports.

# MONITORING AND EVALUATION

## Definition of indicators

Services provided in timely, quality and quantity manner, as required in these Terms of Reference.

## Special requirements

Not applicable.

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